DATE: 09/27/2001

TIME: 12:11:57

Input Set : A:\Inteinm.app Output Set: N:\CRF3\09272001\I786009.raw 3 :110 APPLICANT: XU, Ming-Qun EVANS, Thomas C. r > 1200. TITLE OF INVENTION: Intein Mediated Peptide Ligation ਰ 130 - FILE REFERENCE: NEB-150PUS 10 - 140 - CURRENT APPLICATION NUMBER: 09/786,009 C--> 11 <141> CURRENT FILING DATE: 2001-04-17 13 1500 PRIOR APPLICATION NUMBER: 60/102,413 ENTERED 14 | 151 - PFIOR FILING DATE: 1999-09-30 16 150: PRIOR APPLICATION NUMBER: PCT/US99/22776 17 1151: PRIOR FILING DATE: 1999-09-30 19 1160 NUMBER OF SEQ ID NOS: 9 21 - 1701 SOFTWARE: PatentIn Ver. 2.0 23 - (210) - SEQ ID NO: 1 24 (211) LENGTH: 43 25 -1212. TYPE: DNA 26 - 2013 - ORGANISM: Artificial Sequence .8 -0.20 FEATURE: .0 222. OTHER INFORMATION: Description of Artificial Sequence: the modified C-terminal splind junction of the intein from the gyrA gene of Mycobacterium xenopi 31 33 (4)0. SEQUENCE: 1 43 34 ggttogtdag odaegotaet ggedteadeg gttgataget gea 36 -1210 - SEQ ID NO: 2 37 (211) LENGTH: 39 38 212 TYPE: DNA 39 013 ORGANISM: Artificial Sequence DROW FEATURE: 4.1 41 - Draw OTHER INFORMATION: Description of Artificial Sequence: the complementary strand of the C-terminal splice 4.3 junction of the modified intein from the gyrA 💚 44 4.50 gene of Mydobacterium xenopi 47 - 400 SEQUENCE: 2 39 48 getateaaco ggtgaggoda gtagegtgge tgaegaaco (217%) SEQ ID NO: 3 0. ..11 - LENGTH: 68 1212 TYPE: DNA . · FGANISM: Artificial Sequence We wanted .: OTHER INFORMATION: Description of Artificial Sequence: the polylinker sequence inserted upstréam of the modified inteln from the gyrA gene of Mycobacterium xenopi n / (400 - SEQUENCE: 3 $+\infty$ trialturing acatatoged atmosphaged geographical gagatotted topaldacgg ± 0 bu gamangda 64 - ... SEQ ID NO: 4 65 <211 · LENGTH: 69

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/786,009

55 KBIBA TYPE: DNA

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67 <213> ORGANISM: Artificial Sequence
69 -1120> FEATURE:
70 \cdot 1023 OTHER INFORMATION: At position 41, "H" = A or C or T.
72 -(220) FEATURE:
73 - 1223 OTHER INFORMATION: Description of Artificial Sequence: the
74
        complementary strand of the polylinker inserted
75
         upstream of the modified intein from the gyrA
76
         gene of Mycobacterium xenopi
76 -(400) - SEQUENCE: 4
7) offugigeato tocogligaty caggaagage octogagged hyddyddaed caiggedata 60
80 totletagat
82 -210 - SEQ ID NO: 5
83 - 211: LENGTH: 6509
84 |212| TYPE: DNA
85 - 213> ORGANISM: Artificial Sequence
87 - 1220 FEATURE:
88 - 223: OTHER INFORMATION: Description of Artificial Sequence: pTXBl plasmid
        sequence containing the modified intein from the
90
         gyrA gene of Mycobacterium xenopi
92 - (400) - SEQUENCE: 5
9) aabtaogtoa ggtggbabtt ttoggggaaa tgtgbgbgga abbobtattt gtttattttt 60
94 ethautaeat toaaafatgt atdegeteat gagadaataa eestgataaa tgetteaata 120
9. utatigaaaa aygaagauta tgagtattoa adatttoogt gtogoodtta ttoodttttt 180
96 tgoggoatti tgoottootg tittitgotoa oocagaaasg otjgigaaag taaaayatgo 240
97 tgaagatoag tigggigdad gagigggita dalogaadig gaididaada goggiaagaf 300
98 octtgagagt titogoooog aagaaogtto tocaatgatg agcactitta aagttotgot 360
99 atgtggegeg gtattatees gtgttgaege egggeaagag caacteggte geogeataca 420
100 ctanteteag aatgaettgg ttgagtaete accagteaca gaaaageate ttaeggatgg 480
101 catgacagta agagaattat geagtgetge cataaccatg agtgataaca etgeggeeaa 540
102 offactforg acaacgatog gaggacogaa ggagotaaco gottittitgo acaacatggg 600
163 ggattatgta actogoottig atogttiggga acoggagotig aatgaagoda taccaaacga 660
154 egagegigae accaegatge eigitageaat ggeaacaaeg tigegeaaac tattaacigg 720
105 egaactaett actotagett oceggeaaca attaatagac tggatggagg eggataaagt 780
196 tgcaggacca cttctgcgct cggcccttcc ggctggctgg tttattgctg ataaatctgg 840
107 ageoggtgag egtgggtete geggtateat tgeageactg gggeeagatg gtaageoote 900
\pm 1.8 cogtatogta gthatotaca ogacggggag toaggcaact atggatgaac gaaatagaca 960.
1/9 gatogetgag ataggtgoot cactgattaa geattggtaa etgtcagaec aagtttacte 1/20
lio akatatatti tagattgatt tacccoggit gataatcaga aaagccicaa aaacaggaag 1080
1.1 attytataag paaatattta aattytaaab yttaatatti tyttaaaatt pydyttääät 1140
111 tritigittaaa toagotoatt tittaadodaa taggoogaaa toggoaaaat ooottataaa 1200
1. V traaaagaat agoobyagat iggggttgagt gttgttobag titggaabaa gagtobabta 1260
1.4 thawayaacy tygachocaa cytcaaaggy cyaasaaccy totahcaggy cystcycca 1\cdot 26
u – orangrapak datrahnnaa afbaagtitt tiggagtoga ggigoogtaa agbabtaaat 1380
ILE bygaabbota aagygagobo bogalitaga qottijanggy 48884nnggo gaangiddoo 1440
z_{1},\ldots,z_{2} and the statement of the contraction of the contraction of the contraction z_{2}
118 abgotgogog taabbadbad abbogbogog sita+tubgi biji ++++++ bqb:faaaad 1566
lin gatolaggig wagsionitt tigataatol batgabbaaa atboottaab gigagtitto irbu
120 gttocactga gogtoagaco oogtagaaaa gatoaaayya lottottyly atcofffff 1r86
121 tetgegegta atetgetget tgcaaacaaa aaaaccaccg ctaccagegg tggtttgttt 1740
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122 geoggateaa gagetaecaa etettittee gaaggtaast gyetteagea gagegeagat 1800 123 accasatact gtoottotag tgtagoogta gttaggodad dacttosaga actotgtagd 1860 124 acceptaca tacctogoto tectaateet ettaccaette ettaccaette ettaccaette ettaccaette 125 gtogtgtott accegggttgg actoaagaog atagttacceg gataaggego ageggteggg 1980 126 otgaacgggg ggttogtgca cacageccag ottggagega acgaectaca cegaactgag 2040 127 atacetacag egtgagetat gagaaagege caegetteee gaagggagaa aggeggacag 2100 128 gtateeggta ageggeaggg teggaacagg agagegeaeg agggagette cagggggaaa 2160 129 egeetggtat etttatagte etgtegggtt tegecacete tgaettgage gtegattttt 2220 130 gtgatgotog toaggggggd ggagodtatg gaaaaacgod agcaacgegg cotttttacg 2280 131 gtteetggee tittgetgge citttgetea catgitetti eetgegitat eeeetgatie 2340 13. tytygyataac cytattaccy cotttyayty agetyatacc yetogoogca geogaacyac 2400 133 egagegeage gayteagtga gegaggaage tatggtgeae teteagtaca atetgetetg 2460 134 atgregicata gittaagodag tatacactor gotatogota ogitgaciggg toatggotige 2520135 geocegacae degecaadad degetgaege geoetgaegg gettgtetge tedeggeate 2580 136 ogettadaga daagetgtga degteteegg gagetgeatg tgteagaggt titteacegte 2640 137 atbaccgaaa cgcgcgaggc agctgcggta aagctcatca gcgtggtcgt gcagcgattc 2700 138 abagatgtot geotgttoat cogogtocag stegttgagt ttotocagaa gegttaatgt 2760 139 diggettetg ataaageggg coatgitaag ggeggttitt teetgittigg teactigatg 2820 140 octooqtqta aqqqqqaatt totqttoatq qqqqtaatqa taccqatqaa acqaqaqaqq 2880 14: atgeteaega taegggttae tgatgatgaa eatgeeeggt taetggaaeg ttgtgagggt 2940 142 aaacaactgg cggtatggat goggogggab bagagaaaaa toactcaggg toaatgocag 3000 ± 1 k ongaalgoca golaagaogta ghocagogog toggoogoca tgooggogat aatgglotgo 3060144 ttotogobya aabgittggt quoyggadda gtgacgaagg bilgagbgaa ggbgtgdaag 3120 145 attoogaata oogdaagoga baggoogato atogtogogu tidagogaaa girgqbootog RIXD 145 degaaaatga deeagagege tgooggeaco tgtootaoga gittgoatgat alagaagada 3240 147 gtdataagtg oggogadgat agtdatgddd oggodddadd ggaaggagdt gadtgggttg 3300 148 aaggetotoa agggoatogg togagatooo ggtgootaat gagtgageta aettacatta 3360 149 attgegttge geteactgee egettteeag tegggaaace tgtegtgeea getgeattaa 3420 15% tgaateggee aaegegeggg gagaggeggt ttgegtattg ggegeeaggg tggtttttet 3480 151 titleaceagt gagaegggea acagetgatt gecetteace geotggeect gagagagttg 3540 152 dagdaagogg todaogotgg titgooddag daggogaaaa tootgiitga tygiggitaa 3600 153 oggogggata taacatgage tgtetteggt ategtegtat bebæctadeg agatateege 3660 154 accasegage agocoggset aggtastgga gagasttgag accagagacs tatgstagtt 3720-155 qquaaccaqc atoqcaqtqq qaacqatqcc ctcattcaqc atttqcatqq tttqttqaaa 3780 156 acceggacate yeartopagt ogcottocog troopetate ggetgaatit gattgegagt 3840 157 gagatattta tgobagooag obagaogoag aegogoogag abagaabtta atgggboogo 3900 155 taacaqoqoq atttqotqqt gacccaatgo gaccaqatgo tocacgocca gtogoqtaco 3960 159 gtoftoatqq qaqaasataa factqttqat qqqtqtotqq toaqaqacat baaqaaataa 4020 100 ogooggaada tiagigbagg dagottodab agdaatggda toolggboat bbagoggata 4081 16) gttaatgate ageocactga egegttgege gagaagattg tgeaeegeeg etttabagge 4140 182 thogacycog chicythata ccaicgadad naddadgotg gdaddaagti gaioggogog 4200 lés agairtaato googogabaa hiigogaogg ogogiybagg goolagabiya asaiggbaab 4066 In 4 goddaith $4g_{\mathrm{T}}$ alogath g_{T} for house day it git global acgregating grant globalt 43x . 1mb dagotoogoo atogoogott obabttttio obgogttiin goagaaangt dannigabota 4.78%int gthiascalg oggisskrik fintgataaga gabaooggoa tabtotgoga betogtatas 444-Th/ optiactggt tidacatica coaccotgua tiquototic incoppissio atmatmment 45% 168 accordinately generally attropating accordinate togaconomic contraction 4.8.9169 appropriate taggaageag becagtagta ggttgaggeo gttgagea66 geogregeaa 4820170 ggaatggtgd atgergeet ttegteffea agaattaatt eesaatteea ggeafeaaat 4680 RAW SEQUENCE LISTING DATE: 09/27/2001 PATENT APPLICATION: US/09/786,009 TIME: 12:11:57

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Output Set: N:\CRF3\09272001\I786009.raw

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172 egeteteetg agtaggacaa atoogooggg agoggatttg aaegttgega agcaacggoo 4800
173 oggagggtgg ogggcaggad goodgodata aactgodagg aattaattoo aggdatdaaa 48%0
174 taaaacgaaa ggctcagtcg aaagactggg cetttegttt tatetgttgt ttgteggtga 4920
175 acgeteteet gagtaggaca aatoegeegg gageggattt gaaegttgeg aagcaaegge 4980
176 coggagggtg gegggcagga egocegecat aaactgccag gaattaatte caggcatcaa 5040
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180 aataaaacga aaggeteagt egaaagaetg ggeetttegt titatetgtt gittgteggt 5280
181 gaacgetete etgagtagga caaateegee gggageggat ttgaacgttg egaagcaacg 5340
182 geoeggaggg tygegggeag gaegeoegee ataaactgee aggaattygg gateggaatt 5400
183 aatteeeggt ttaaaeeggg gatetegate eegegaaatt aataegaete aetatagggg 5460
184 aattqtqaqo qqataacaat toocototaq aaataatttt gtttaacttt aagaaggaga 5520
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191 thacqcggtg attcaacgca gcgcattcag cgtcgactgt gcaggttttg cccgcgggaa 5940
4\% arrowalltt godoccacaa octacacagt bygogtocct ggabtggtgb gittottgga 6000
14) agraduaceas ogaganocogy acqueesaago tategoogae gagetgacog acqqqcqqtt 6060
194 chactaogog aaagtogoda gigicaooga ogobggogig cagooggigi atagootiing 6%%.
195 tytogacacy goagaccacy cyttateac gaacygytte yteagecacy ctactygeet 6.01
196 caccoquicty aactcagged toacgadaaa tootggtgta toogcttggd aggidaadad 6240
197 agottatact gogggacaat tggtcacata taacggcaag acgtataaat gtttgcagcc 630%
198 ocacaector tiggicaggat gggaaccate caaegitoot goottigtigge agotteaatg 6360
199 actgeaggaa ggggateegg etgetaacaa ageeegaaag gaagetgagt tggetgetge 6420
20) cacceptgag caataastag cataaccest tggggeetet aaacgggtet tgaggggttt 6480
201 titgotgaaa ggaggaacta tatcoggat
203 K210 SEQ ID NO: 5
204 REBILL LENGTH: 30
205 0212° TYPE: PRT
20m Wills - ORGANISM: Artificial Sequence
208 3320 · FEATURE:
200 <223 - OTHER INFORMATION: Description of Artificial Sequence: synthetic
        peptide
2.17
211 - 40 F SEQUENCE: 6
(4) A Cys Ala Tyr Lys Thr Thr Gln Ala Ash Lys His Ile Ile Val Ala Cys
                                         10
. . .
11: Gou Gly Ash Pro Tyr Val Pro Val His Phe Ash Ala Ser Val
                                     2.5
    LIIU- SEQ ID NO: 7
    . . 1 - LENGIF - 1
III. WILLS TYPE: PRT
123 ...13 + ORGANISM Artificial Sequence
115 (310) → FEATURE:
Lue <223> OTHER INFORMATION: Description of Artificial Sequence: the amino acid
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sequence deduced from the polylinker region of 228 pTXB1 236 <400> SEQUENCE: 7 231 Met Ala Met Gly Gly Gly Arg Leu Glu Gly Ser Ser Cys 232 1 5 $235 + 210 \rightarrow SEQ ID NO: 8$ 236 - 2211 > LENGTH: 42 237 - 212 TYPE: DNA 238 - 2213 > ORGANISM: Artificial Sequence 246 - 12200 FEATURE: 241 \pm 2233 \pm OTHER INFORMATION: Description of Artificial Sequence: polylinker $-ar{ar{\mathcal{C}}}'$ 242 region upstream of the modified intein from the 243 gyrA gene of Mycobacterium xenopi in pTXB1 245 - 400 - SEQUENCE: 8 42 246 catatggcca tgggtggcgg ccgcctcgag ggctcttcct gc 248 -2210> SEQ ID NO: 9 249 - (211) - LENGTH: 7 250 -: 212: TYPE: PRT 251 - 2213: ORGANISM: Artificial Sequence 153 - 120 FEATURE: 254 + 223 + OTHER INFORMATION: Description of Artificial Sequence: synthetic, / .35 peptide 257 - 400 - SEQUENCE: 9 158 dys Asp Pro Glu Lys Asp Ser

259 1





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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date